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INTRODUCTION.

This REVIEW is based on reports for February, 1890, from 2,209 regular and voluntary observers. These reports are classified as follows: 172 reports from Signal Service stations; 120 reports from United States Army post surgeons; 29 reports of rainfall observations of the United States Geological Survey in Arizona, New Mexico, and Colorado; 1,348 monthly reports from state weather service and voluntary observers; 25 reports from Canadian stations; 176 reports through the Central Pacific Railway Company; 339 marine reports through the co-operation of the Hydrographic Office, Navy Department; marine reports through the "New York Herald Weather Service;" monthly weather reports from the local weather services of Alabama, Arkansas, Colorado, Illinois, Indiana, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Meteorological Report of the Missouri State Board of Agriculture, Nebraska, Nevada, New England, New Jersey, New York, North Carolina, North and South Dakota, Ohio, Oregon, Pennsylvania, South Carolina, Tennessee, and Texas, and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

CHARACTERISTICS OF THE WEATHER FOR FEBRUARY, 1890.

Well-defined tornadoes were reported in Geneva county, Alabama, on the 7th, and in Talladega and Pickens counties, Alabama, and in Kemper county, Mississippi, on the 27th. Destructive storms prevailed in Fayette, Centre, and Cambria counties, Pennsylvania, on the 7th, and along the New Jersey coast from the 7th to 9th. Severe storms occurred at Gainesville, Tex., and Brownsville, Tenn., on the 25th, and on the 26th destructive storms were reported at Marksville, La., Johnsonville, Tenn,, and Paducah, Ky. Extreme wind-velocities of ninety-six miles per hour were noted at Fort Buford, N. Dak., on the 4th, and at Lexington, Ky., on the 26th. A remarkable hail storm was reported at Livingston, Ala., on the 24th.

The month was warmer than usual, except on the Pacific coast and the adjoining part of the plateau region and over the northern part of the country west of the one hundredth meridian. The departures above the average February temperature varied from 5° to 9° in areas east of the Rocky Mountains, and in north-central Montana and the British Possessions to the northward the month averaged about 10° cooler than usual. On the Pacific coast the departures below the average temperature for February were greatest in northern California, where they exceeded 3°, and at San Diego, Cal., the temperature was slightly above the average. In the Atlantic coast and Gulf states and in areas in the Ohio valley and Tennessee the current month was the warmest February in the history of the Signal Service, and the continued high temperature of this and the preceding two months marks the winter of 1889–'90 as the warmest on record over a greater part of the country east of the Mississippi River. The highest maximum temperature reported was 101° at Cameron, La., on the 25th, and the lowest minimum temperature noted was —46° at Camp Poplar River, Mont., and Fort Pembina, N. Dak., on the 26th. At stations in the Atlantic coast and Gulf states, in the Lake region, Tennessee, the upper Mississippi and Missouri valleys, along the eastern slope of the Rocky Mountains, and in the southern plateau region the maximum temperature was as high or higher, and at stations on the Pacific coast the minimum temperature was as low or lower than previously reported for February. The remarkable cold wave which overspread the Gulf States during the 27th and 28th was attended by the coldest weather of the season in the Southern States, a severe "norther" in Texas, and in Alabama, Mississippi, Louisiana, and Texas by killing frost which nipped fruit buds and greatly damaged early vegetation and crops. The cold wave of the latter part of the month on the north Pacific coast and over the middle and northern plateau regions caused a great loss of stock on the ranges in eastern Oregon and northeastern Nevada.

The precipitation was generally in excess of the average for the month in the Saint Lawrence Valley and thence southwestward to northern Arkansas, in the Lake region, in the middle and northern plateau regions, in Oregon, and along the middle Pacific coast; elsewhere it was generally deficient. The greatest excesses in precipitation were noted in north-central Tennessee, where the rainfall was nearly six inches, and in west-central Oregon, where it was more than four inches at Roseburgh and Eola, and more than five inches at Albany greater than the average precipitation for February. In southeastern Indiana, extreme southern Illinois, Tennessee, extreme north-central Michigan, and northwestern Oregon, the excesses over the February average amounted to more than three inches. The greatest deficiencies in precipitation were noted on the south coast of New England, where, at Block Island, R. I., the total amount for the month was over four inches less than the February average, and the deficiences were more than two inches on the North Carolina coast, thence southward to northern Florida, and thence westward along the Gulf coast to southern Louisiana, in central Illinois, extreme southeastern Arizona, extreme northwestern Washington, and at Los Angeles, Cal. The heaviest monthly precipitation reported was 23.68, at Ellensburgh, Oregon; the monthly precipitation exceeded ten inches in northwestern California, in eastern California between the thirty-eighth and thirty-ninth parallels, along and near the west coast of Oregon, in central Arkansas, central Mississippi, northeastern Alabama, northwestern Georgia, central and southwestern Tennessee, southwestern Kentucky, southwestern Indiana, and extreme western North Carolina; and at stations in central Texas, extreme northern Michigan, northern Nebraska, west-central Colorado, and western Oregon the precipitation was the heaviest ever re-